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Mineral Industry Surveys

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CHROMIUM IN JULY 2002

On the basis of gross weight, consumption of chromium ferroalloys and metal in July 2002 decreased 9% compared with revised consumption in June 2002, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in July 2002, U.S. consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of July 2002, and U.S. foreign trade data for selected chromium-containing materials in June 2002.

Update

The Defense National Stockpile Center reported the sale of 10,886 metric tons of ferrochromium valued at $5.5 million in August 2002. The sale comprised 9,072 metric tons of high-carbon ferrochromium and 1,814 metric tons of low-carbon ferrochromium.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight)

	2001	2002					
	January-December	First quarter	May	June	Second quarter	July	January-July 2/
Production:							
Stainless steel production 3/	1,820,000	464,000	174,000	207,000	568,000	186,000	1,250,000 4/
Components of U.S. supply:							
Stainless steel scrap receipts	710,000	186,000	75,800	79,300	224,000	78,500	489,000
Stainless steel scrap consumption	1,070,000	274,000	113,000	118,000	328,000	109,000	711,000
Imports for consumption:							
Chromite ore	189,000	43,600	37,100	548	40,500	NA	84,100 5/
Ferrochromium:							
More than 4% carbon	236,000	40,600	21,100	19,300	68,600	NA	109,000 5/
More than 3%, but not more than 4% carbon	20	--	--	--	--	NA	-- 5/
More than 0.5%, but not more than 3% carbon	2,290	2,210	450	300	2,900	NA	5,100 5/
Not more than 0.5% carbon	17,200	4,320	696	1,040	3,110	NA	7,440 5/
Ferrochromium silicon	14,600	5,450	3,470	2,300	8,270	NA	13,700 5/
Total ferroalloy imports	271,000	52,600	25,700	22,900	82,900	NA	135,000 5/
Chromium metal 6/	8,190	1,810	804	493	2,110	NA	3,920 5/
Stainless steel	761,000	218,000	73,800	54,700	196,000	NA	414,000 5/
Stainless steel scrap	42,300	10,600	6,360	6,130	17,100	NA	27,700 5/
Distribution of U.S. supply:							
Consumption:							
Chromium ferroalloys & metal	367,000	87,000	29,900	34,300 r/	94,600	31,300	213,000
Exports:							
Chromite ore	61,000	1,570	494	17,200	18,300	NA	19,800 5/
Chromium ferroalloys:							
High-carbon ferrochromium	8,390	855	603	314	1,370	NA	2,220 5/
Low-carbon ferrochromium	7,880	562	125	83	407	NA	969 5/
Ferrochromium silicon	86	17	45	59	127	NA	144 5/
Total ferroalloy exports	16,400	1,430	774	456	1,900	NA	3,340 5/
Chromium metal	1,040	124	48	24	152	NA	275 5/
Stainless steel	249,000	57,400	25,400	19,100	66,800	NA	124,000 5/
Stainless steel scrap	438,000	90,600	25,400	33,300	111,000	NA	201,000 5/
Stocks at end of period:							
Industry:							
Chromium ferroalloys and metal, consumer	28,000	XX	10,900	9,880 r/	XX	13,800	XX
Government stockpile:							
Chromite ore	394,000	XX	303,000	253,000	XX	254,000	XX
Chromium ferroalloys	811,000	XX	800,000	537,000	XX	535,000	XX
Chromium metal	7,220	XX	7,220	7,210	XX	7,210	XX

r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

4/ Includes revised data which is not broken out by specific month.

5/ Includes data for January through June; July data not available.

6/ Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2002 1/

(Metric tons, gross weight unless otherwise noted)

	June	July	January-July 2/
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	462	503	3,210
High-strength low-alloy steel	1,130 r/	1,130	7,700
Stainless and heat-resisting steel	29,200	26,400	178,000
Full alloy steel	1,370 r/	1,300	9,430
Electrical steel	W	W	W
Tool steel	631	464	3,610
Cast irons	W	W	W
Superalloys	599	658	4,630
Other alloys 3/	96	200	848
Total	34,300 r/	31,300	213,000
Total, chromium content	19,400	18,100	121,000
Consumption by material:			
Low-carbon ferrochromium	1,740	1,750	12,000
High-carbon ferrochromium	26,800 r/	24,500	165,000
Ferrochromium silicon	5,450	4,690	33,200
Chromium metal	258	230	1,940
Chromite ore	W	W	W
Chromium-aluminum alloy	34	42	287
Other chromium materials	W	W	W
Total	34,300 r/	31,300	213,000
Total, chromium content	19,400	18,100	121,000
Consumer stocks:			
Low-carbon ferrochromium	2,080 r/	2,360	XX
High-carbon ferrochromium	6,490 r/	10,200	XX
Ferrochromium silicon	1,020	975	XX
Chromium metal	173	180	XX
Chromite ore	2	13	XX
Chromium-aluminum alloy	20	23	XX
Other chromium materials	89	90	XX
Total	9,880 r/	13,800	XX
Total, chromium content	5,870 r/	8,380	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Includes welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

	Chromite ore			Chromium ferroalloys			Chromium metal		
Period	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic	Total
2001:									
July	198,000	169,000	235,000	603,000	261,000	16,500	2,290	5,050	7,340
August	198,000	144,000	219,000	603,000	257,000	14,000	2,270	5,050	7,320
September	198,000	144,000	219,000	601,000	248,000	12,900	2,250	5,050	7,300
October	192,000	--	202,000	561,000	243,000	9,600	NA	NA	7,220
November	192,000	--	202,000	561,000	243,000	6,970	NA	NA	7,220
December	192,000	--	202,000	561,000	243,000	6,970	NA	NA	7,220
2002:									
January	192,000	--	111,000	561,000	243,000	6,970	NA	NA	7,220
February	192,000	--	111,000	558,000	239,000	6,970	NA	NA	7,220
March	192,000	--	111,000	558,000	239,000	6,970	NA	NA	7,220
April	192,000	--	111,000	558,000	239,000	3,100	NA	NA	7,220
May	192,000	--	111,000	558,000	239,000	3,100	NA	NA	7,220
June	78,300	--	175,000	374,000	163,000	--	NA	NA	7,210
July	78,300	--	175,000	372,000	163,000	--	NA	NA	7,210

-- Zero.

1/ Data through September 2001 includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped. Data for October 2001 through July 2002 includes specification and non-specification grade materials.

2/ Data are rounded to no more than three significant digits.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL 1/

	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
Period	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2001:							
June	1,170	$428	613	393	$611	85	$869
July	471	253	893	573	717	72	999
August	26,500	1,760	300	178	326	26	442
September	205	302	408	246	424	74	571
October	13,000	810	689	437	611	38	570
November	550	244	851	571	750	29	430
December	168	56	232	144	186	62	490
January-December	61,000	6,680	16,400	8,800	12,500	1,040	10,700
2002:							
January	350	210	463	288	472	53	450
February	988	572	394	233	393	44	224
March	234	106	577	354	513	27	447
April	528	822	674	412	652	80	699
May	494	153	774	452	686	48	493
June	17,200	824	456	261	416	24	265
January-June	19,800	2,690	3,340	2,000	3,130	275	2,580

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	2001	2002			
	January-December	April	May	June	January-June 2/
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	1,600	18	--	46	330
Chromic oxide content	575	6	--	16	73
More than 40% but less than 46% chromic oxide:					
Gross weight	3,100	--	--	--	10,500
Chromic oxide content	1,430	--	--	--	4,420
46% or more chromic oxide:					
Gross weight	184,000	2,870	37,100	502	73,300
Chromic oxide content	88,600	1,340	17,300	250	34,200
Total, all grades:					
Gross weight	189,000	2,890	37,100	548	84,100
Chromic oxide content	90,600	1,350	17,300	266	38,700
Ferrochromium:					
Low-carbon: 3/					
Not more than 0.5%:					
Gross weight	17,200	1,370	696	1,040	7,440
Chromium content	11,800	946	402	728	5,070
More than 0.5%, but not more than 3%:					
Gross weight	2,290	2,150	450	300	5,100
Chromium content	1,440	1,280	306	182	3,190
Total, low-carbon:					
Gross weight	19,500	3,520	1,150	1,340	12,500
Chromium content	13,200	2,220	708	910	8,260
Medium-carbon: 4/					
Gross weight	20	--	--	--	--
Chromium content	13	--	--	--	--
High-carbon: 5/					
Gross weight	236,000	28,200	21,100	19,300	109,000
Chromium content	137,000	17,300	13,100	12,300	68,500
Total, all grades:					
Gross weight	256,000	31,700	22,200	20,600	122,000
Chromium content	150,000	19,500	13,800	13,200	76,700
Chromium metal:					
Other than waste and scrap	8,150	810	800	489	3,870
Waste and scrap	43	6	5	4	55
Total, all grades	8,190	816	804	493	3,920

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Ferrochromium containing not more than 3% carbon.

4/ Ferrochromium containing more than 3%, but not more than 4% carbon.

5/ Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	June			January-June 2/		
	Gross weight (metric tons)	Cr_2O_3 (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Cr_2O_3 (metric tons)	Value 3/ (thousands)
Not more than 40% chromic oxide:						
Canada	--	--	--	38	13	$15
Philippines	26	9	$2	272	53	50
South Africa	20	7	5	20	7	5
Total	46	16	7	330	73	70
More than 40%, but less than 46% chromic oxide, South Africa	--	--	--	10,500	4,420	693
46% or more chromic oxide, South Africa	502	250	65	73,300	34,200	3,490
All grades:						
Canada	--	--	--	38	13	15
Philippines	26	9	2	272	53	50
South Africa	522	257	71	83,800	38,600	4,190
Total	548	266	73	84,100	38,700	4,250

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	June			January-June 2/		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)
High-carbon ferrochromium: 4/						
China	52	34	$60	52	34	$60
Germany	--	--	--	3,080	2,140	1,450
Kazakhstan	13,500	9,380	4,950	60,800	41,900	21,000
Russia	--	--	--	1,560	1,070	1,420
South Africa	5,690	2,840	1,240	34,100	17,600	7,530
Turkey	--	--	--	3,500	2,110	1,090
Venezuela	--	--	--	20	14	12
Zimbabwe	--	--	--	6,140	3,700	2,230
Total	19,300	12,300	6,260	109,000	68,500	34,700
Low-carbon ferrochromium: 5/						
More than 0.5%, but not more than 3% carbon:						
Kazakhstan	--	--	--	1,660	1,160	1,160
Russia	--	--	--	656	459	608
South Africa	300	182	157	2,790	1,570	1,210
Total	300	182	157	5,100	3,190	2,970
Not more than 0.5% carbon:						
China	20	13	23	40	26	47
France	--	--	--	4	3	5
Germany	98	68	195	1,470	1,030	2,780
Japan	80	55	164	561	393	1,160
Kazakhstan	400	280	278	1,350	956	1,010
Russia	400	280	382	3,330	2,210	3,260
South Africa	27	19	66	422	270	405
Turkey	19	12	30	259	188	286
Total	1,040	728	1,140	7,440	5,070	8,950
All grades:						
China	72	48	83	92	61	108
France	--	--	--	4	3	5
Germany	98	68	195	4,550	3,170	4,230
Japan	80	55	164	561	393	1,160
Kazakhstan	13,900	9,660	5,230	63,800	44,000	23,100
Russia	400	280	382	5,550	3,740	5,290
South Africa	6,020	3,040	1,470	37,300	19,400	9,150
Turkey	19	12	30	3,760	2,300	1,380
Venezuela	--	--	--	20	14	12
Zimbabwe	--	--	--	6,140	3,700	2,230
Total	20,600	13,200	7,550	122,000	76,700	46,700

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

4/ Ferrochromium containing more than 4% carbon.

5/ Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2002,
BY GRADE AND BY COUNTRY 1/

Grade and country	June		January-June 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
Waste and scrap:				
Germany	3	$50	14	$201
Japan	--	--	21	141
Korea, Republic of	1	5	3	10
Russia	--	--	18	352
Total	4	56	55	705
Other than waste and scrap:				
Austria	--	--	(4/)	5
China	190	747	762	2,990
France	110	934	983	7,800
Germany	--	--	24	338
Italy	--	--	2	92
Japan	(4/)	6	5	70
Kazakhstan	--	--	265	1,080
Korea, Republic of	--	--	1	4
Netherlands	--	--	7	29
Russia	119	503	1,000	4,500
Singapore	--	--	(4/)	11
Switzerland	(4/)	3	(4/)	9
Taiwan	--	--	2	13
United Kingdom	69	476	817	5,120
Total	489	2,670	3,870	22,100
All grades:				
Austria	--	--	(4/)	5
China	190	747	762	2,990
France	110	934	983	7,800
Germany	3	50	38	539
Italy	--	--	2	92
Japan	(4/)	6	26	211
Kazakhstan	--	--	265	1,080
Korea, Republic of	1	5	3	14
Netherlands	--	--	7	29
Russia	119	503	1,020	4,850
Singapore	--	--	(4/)	11
Switzerland	(4/)	3	(4/)	9
Taiwan	--	--	2	13
United Kingdom	69	476	817	5,120
Total	493	2,730	3,920	22,800

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2002 1/

Stainless steel product	June		January-June 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
Exports:				
Ingot	347	$1,780	7,100	$27,700
Flat-rolled (width > 600 mm)	7,110	17,100	39,600	92,700
Flat-rolled (width < 600 mm)	7,440	15,600	48,100	100,000
Bars and rods in irregular coils	114	473	679	2,870
Other bars and rods	1,430	7,440	8,890	48,900
Wire	788	5,300	5,680	40,000
Tubes, pipes, hollow profiles	1,920	8,580	14,100	55,700
Total	19,100	56,400	124,000	368,000
Stainless steel scrap	33,300	25,600	201,000	138,000
Grand total	52,500	82,000	325,000	506,000
Imports:				
Ingot	14,800	18,100	174,000	191,000
Flat-rolled (width > 600 mm)	20,200	31,700	114,000	168,000
Flat-rolled (width < 600 mm)	2,690	8,410	16,600	51,800
Bars and rods in irregular coils	3,460	6,180	29,400	48,200
Other bars and rods	5,910	13,000	34,600	80,600
Wire	2,430	7,690	14,000	44,500
Tubes, pipes, hollow profiles	5,210	20,600	30,600	123,000
Total	54,700	106,000	414,000	708,000
Stainless steel scrap	6,130	3,730	27,700	17,600
Grand total	60,800	109,000	441,000	725,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

Source: U.S. Census Bureau.